

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name: Pondera 2D Seismic / Permit # 1484	Proposed Implementation Date: Winter 2007
Proponent: Wave USA Inc., C/o Dillon Ohrt, Midcon Permit Services #(406)-759-8586	
Type and Purpose of Action: Wave USA Inc. is proposing to conduct a single phase 2-D seismic project covering 6,439.51 acres of state owned mineral lands in order to better define the presence of subsurface hydrocarbons. The project whole will consist of 20 source lines covering 127.35 linear miles of land surface. Of the total coverage, there will be .86 miles of State CRP, 6.05 miles of State Native Range, 2.61 miles of State Crop, and 5.56 miles of State Crop Fallow lands that will be directly impacted. Equipment to be used will be rubber tired ATV type vehicles. The energy source will be via Vibroseis technique. May be probable that some receiver lines will be placed via aircraft. (Attached General Stipulations included with this assessment.)	
Location: T25N, R4W, Sec 16 - 160 ac T26N, R4W, Sec 36 - 320 ac Sec 24 - 200 ac T26N, R3W, Sec 17 - 449.1 ac Sec 20 - 428.77 ac Sec 15 - 440 ac Sec 10 - 360 ac Sec 13 - 160 ac Sec 2 - 161.64 ac T27N, R3W, Sec 35 - 320 ac Sec 27 - 160 ac Sec 22 - 480 ac Sec 15 - 640 ac Sec 10 - 160 ac Sec 14 - 440 ac Sec 23 - 280 ac T27N, R1W, Sec 27 - 320 ac Sec 23 - 640 ac Sec 12 - 320 ac (For exact legal description per ¼ section see Memo dated 9-18-06 Seismic Permit # 1484 included.)	County: Teton and Pondera Counties, Montana

I. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED: Provide a brief chronology of the scoping and ongoing involvement for this project.	The Department of Natural Resources and Conservation (DNRC) has been petitioned by Wave USA Inc. to conduct a 2-D seismic project across the above referenced tracts of state lands. Polaris Explorer USA, Inc. has
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	<p>been hired on behalf of Wave USA Inc. to complete the seismic project. The Montana DNRC sent out a scoping letter to the appropriate state surface lessee(s), regarding this proposed project. The scoping letter identifies the location of the proposed seismic project and how damages will be settled with Wave USA Inc.</p>
<p>2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:</p>	<p>The Montana DNRC, Conrad Unit Office, Minerals and Management Bureau, and the Montana Board of Oil & Gas are the only governmental agencies with jurisdiction for this type of project. Wave USA, Inc. will need to obtain a seismic permit from the Montana DNRC, prior to conducting any seismic activity on this tract of state land. The seismic company that has been contracted to do the seismic work under this permit must have a valid permit with the county and have registered their bond with the Secretary of State's Office.</p>
<p>3. ALTERNATIVES CONSIDERED:</p>	<p>Action Alternative: Grant Wave USA, Inc. permission to conduct a 3-D seismic project for the exploration of natural gas formations across the above referenced tract of state land. The Montana DNRC will issue Wave USA, Inc. a seismic permit to conduct a seismic project across the above listed tracts of state land.</p> <p>No Action Alternative: The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state land.</p>

II. IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	POTENTIAL IMPACTS
<p>4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are fragile, compactible or unstable soils present? Are there unusual geologic features? Are there special reclamation considerations?</p>	<p>Action Alternative: The soils underlying the cultivated lands will be negatively impacted due to compaction. Data indicates that compaction of cultivated land decrease crop yield. The native rangeland, and CRP lands will receive a minimal disturbance resulting from this type of activity. The proposed seismic project will only take place while the ground is frozen or dry. No unusual geological features are present on these tracts of state land. There are no special reclamation considerations for this project.</p> <p>No Action Alternative: The soils that are located on this tract of state land will not be disturbed. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.</p>

II. IMPACTS ON THE PHYSICAL ENVIRONMENT

5. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?

Action Alternative: The seismic company is prohibited from any seismic activity within 300 feet of any springs, water wells, streams, lakes, or water storage facilities. Also, there is to be no seismic activity within 660' of any reservoir dam structure. (See special stipulations attached.)

No Action Alternative: The water quality, quantity, and distribution will not be impacted on this tract of state land. Water quality standards will not be violated. Drinking water will not be degraded in this area. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.

6. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?

Action Alternative: The proposed seismic project is expected to have a minimal impact on the air quality in the surrounding area. An increase in traffic across this tract will produce some particulates throughout the entire course of the project. However, after the seismic company completes the project, traffic will return to normal in this area. The seismic company will be required to use existing roads and trails for moving equipment from place to place.

No Action Alternative: The air quality currently found on this tract of state land and within the surrounding area will not be impacted. No pollutants or particulates will be produced. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state land.

II. IMPACTS ON THE PHYSICAL ENVIRONMENT

7. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?

The vegetative communities found within the project area consist of native rangeland including the following plants: western wheatgrass (*Agropyron smithii*), needle-and-thread (*Stipa comata*), blue grama (*Bouteloua gracilis*), prairie junegrass (*Koeleria pyramidata*), green needlegrass (*Stipa viridula*), sedges (*Carex spp.*), sandberg bluegrass (*Poa secunda*), cudweed sagewort (*Artemisia ludoviciana*), fringed sagewort (*Artemisia frigida*), dense clubmoss (*Selaginella densa*), silver sagebrush (*Artemisia cana*), and woods rose (*Rosa woodsii*). Also included within the project area is non-native CRP lands, crop fallow lands, and seeded winter wheat croplands. These plant communities will be impacted from traversing equipment compacting the vegetation and soil profile. The impact to the native and CRP grass lands will be short term however, as the plants will fully restore after a couple growing seasons. The fallow and cropland will potentially have a longer-term impact. Compaction is the greatest impact to these cultivated lands. It is important to minimize the impact by conducting activity during dry or frozen conditions only.

Action Alternative: The proposed project is expected to have a minimal impact on the vegetative cover, quantity, and quality of the native rangeland. There will be no vehicular activity, other than specified on the plat map for this project. Wave USA, Inc. will settle all surface damages with the appropriate surface lessee within a reasonable time period following the completion of the seismic project. The overall disturbance is expected to be minimal, as the seismic activity will only be allowed to take place during frozen or dry surface conditions.

No Action Alternative: The vegetative communities found throughout the proposed project area will not be altered. No rare plants and cover types exist in this area. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?

Action Alternative: The area of the proposed activity is used by many different types of wildlife and bird species. Wildlife may be temporarily dispersed in this area, throughout the course of the seismic project. Wildlife and bird species found in this area will not be permanently relocated as a result of this activity. Once the project is completed, wildlife and bird species will return to normal activities in this area. Wildlife habitat will not be significantly impacted by the seismic project.

II. IMPACTS ON THE PHYSICAL ENVIRONMENT

	<p><u>No Action Alternative:</u> The terrestrial and avian life and their habitats associated with this tract of state land will not be altered. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across these tracts of state grazing lands.</p>
<p>9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Sensitive Species or Species of special concern?</p>	<p><u>Action Alternative:</u> The timing of this project will take place while the ground is frozen or dry. This will minimize the overall disturbance to existing habitat types, agricultural commodities, and the native rangeland. Federally listed, threatened, and endangered species will be able to migrate through this area with minimal disturbance. Wildlife and bird species may be temporarily displaced with this type of activity. However, these species will not be permanently relocated as a result of this type of activity. The seismic company will complete their work in a timely manor and leave the area completely. All wildlife species found in this area will return to normal everyday activities, once the seismic company finishes the project and leaves this area.</p> <p><u>No Action Alternative:</u> The unique, endangered, fragile or limited environmental resources found within the immediate area of the proposed project will not be impacted. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state grazing lands.</p>
<p>10. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?</p>	<p><u>Action Alternative:</u> The Montana DNRC has surveyed the proposed project area for existing cultural resources. No historical, archaeological, or paleontological resources are known to exist in the area of the proposed disturbance. The Montana DNRC Archaeologist, Patrick Rennie, was contacted for his input on cultural resources in this area. He has seen no evidence that 2-D seismic activities have an ability to impact any kind of cultural resource, when done on frozen or dry ground.</p> <p><u>No Action Alternative:</u> Unknown or buried historical and archaeological resources present on this tract of state land will not be disturbed. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.</p>

II. IMPACTS ON THE PHYSICAL ENVIRONMENT

11. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?

Action Alternative: The area that will be disturbed throughout the course of this project will be visible to the public until next spring, when native vegetation begins new growth and new agricultural commodities are seeded on the agricultural land. The project will create some excessive noise throughout the entire course of the seismic project. However, the noise levels will return to normal once the project is completed and the seismic company pulls out of the area.

No Action Alternative: The aesthetic character currently found on this tract of state land will not be altered. The proposed area of disturbance will not be visible to the public. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?

Action Alternative: These native grazing lands will receive minimal, short-term impacts with this type of activity. The project will take place while the ground is frozen or dry, in order to limit the impacts on the native rangeland. The project is scheduled during winter months prior to the general farming season. The project will not use resources that are limited in the area.

No Action Alternative: There will be no demands on the environmental resources of land, water, air or energy that is currently found on this tract of state land. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state grazing lands.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA: Are there other studies, plans or projects on this tract?

Action Alternative: The DNRC will continue to monitor mineral and surface management activities on state lands to assess the impacts of these types of projects on the surrounding ecosystem. The Montana DNRC will continue to administer the licensed activities that are currently authorized to take place on these tracts of state land.

No Action Alternative: No further studies, plans, or projects will be needed. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state grazing lands. The Montana DNRC, Trust Land Management Division, Conrad Unit Office will continue to monitor these tracts of state land, in accordance with Montana State Statute.

III. IMPACTS ON THE HUMAN POPULATION

RESOURCE	POTENTIAL IMPACTS AND MITIGATION MEASURES
14. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	<p>Action Alternative: The seismic company, its subcontractors, and/or their employees understand the risks involved with this type of project. They assume the risks involved in seismic project as an occupational hazard. The project will not add to the human health and safety risks of the people who live and work in this area.</p> <p>No Action Alternative: The human health and safety risks found in this area will continue to remain minimal. There will be no human health or safety risks to the seismic company, subcontractors, and/or its employees. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state grazing lands.</p>
15. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	<p>Action Alternative: The Montana DNRC has set up stipulations for the seismic company to ensure that grazing and farming activities will not be altered with this type of project. The native rangeland will be impacted with this type of activity. The proposed project will compress the native grasses and forbs, but will not impact the long-term, future forage productivity of the grazing land. Cultivated croplands will be impacted due to surface compaction. Surface damages will be settled with the state's surface lessees within a reasonable time period following the completion of the proposed seismic project.</p> <p>No Action Alternative: The industrial, commercial, and agricultural activities will not be altered on this tract of state land. Native rangeland forage production will not be reduced. There will be no soil compaction on the agricultural land from the heavy seismic recording vehicles. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.</p>

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	<p><u>Action Alternative:</u> The project will not alter the quantity and distribution of employment in this area. The seismic project will create short-term jobs for Polaris Explorer USA, Inc.'s employees, but will have no impact on the local quantity and distribution of employment. If the project leads to a new large discovery, multiple new jobs could result. It is not feasible to estimate a number at this time.</p> <p><u>No Action Alternative:</u> The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state grazing land.</p>
17. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	<p><u>Action Alternative:</u> The project will create some additional tax revenue in Teton and Pondera Counties. The local and state tax bases will slightly benefit. However, if the project identifies new hydrocarbon reservoirs, the future tax base could see a substantial increase.</p> <p><u>No Action Alternative:</u> The local and state tax base will not be impacted. Tax revenue in Teton and Pondera Counties will remain the same. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across these state-grazing lands.</p>
18. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?	<p><u>Action Alternative:</u> The project will lead to an increase of traffic on the existing roads throughout the course of the project. Traffic will return to normal once the seismic company has completed the project. The project will not require other services such as police, fire departments, or schools. No additional government services will be needed on these tracts of state land.</p> <p><u>No Action Alternative:</u> There will not be a substantial increase in traffic on the existing roads in this area. There will be no demand for additional government services. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across these state-grazing lands.</p>

<p>19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?</p>	<p><u>Action Alternative:</u> The goal of the Montana DNRC/TLMD is to manage the State of Montana's trust land resources to produce revenue for the trust beneficiaries, while considering environmental factors and protecting the future income-generating capacity of the land. Exploring for natural gas and oil reserves on state land has the potential to increase the income-generating capacity of the land. If new reservoirs are found, additional revenue will be generated for the trust beneficiaries through royalties generated from the sale of natural gas and/or oil.</p> <p><u>No Action Alternative:</u> There are no known locally adopted environmental plans or goals for this tract of state land. The Montana DNRC/TLMD does not have any other plans or goals for this tract of state land at this point in time. There are no zoning or management plans in effect for this area.</p>
<p>20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?</p>	<p><u>Action Alternative:</u> The tract of state land identified within the proposed project does have recreational potential. This tract does have legal access for recreational activities. Upland game bird hunting, waterfowl hunting, big game hunting, bird watching, and hiking are just some of the types of recreational activities that take place in this area. The proposed project will not alter these activities. Recreational activities will not be impacted from this project as the timing is post hunting season, and post bird migration.</p> <p><u>No Action Alternative:</u> The access to and quality of the wilderness and recreational activities found in this area will continue to remain the same. This tract of state land does have legal access and will continue to be used for recreational purposes by people who possess a Montana State Conservation License.</p>
<p>21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?</p>	<p><u>Action Alternative:</u> The density and distribution of population and housing will not be impacted with this type of project. The proposed activity will increase traffic on the designated roads into the areas of the project. The increase in traffic will only occur during the initial stages of the seismic project. This area is primarily used for livestock grazing and the production of irrigated and dry land agricultural production.</p> <p><u>No Action Alternative:</u> The density and distribution of population and housing will not change in this area. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.</p>

<p>22. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?</p>	<p><u>Action Alternative:</u> This project will have a minimal impact on the traditional lifestyles found within this area. The social structures and mores will not be impacted by the proposed seismic activity, especially since these communities are located in rural areas.</p> <p><u>No Action Alternative:</u> The social structures and mores will continue to stay the same. The native and traditional lifestyles found in this area will not be disrupted. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state grazing lands.</p>
<p>23. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?</p>	<p><u>Action Alternative:</u> The proposed activity will not cause a shift in any of the unique qualities that are found within the surrounding area. The seismic project will not change the cultural uniqueness and/or the diversity that is found on this tract of state agricultural and grazing land.</p> <p><u>No Action Alternative:</u> The cultural uniqueness and diversity of the land and its people will not be shifted in any way. The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land.</p>
<p>24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:</p>	<p><u>Action Alternative:</u> Wave USA, Inc. is proposing to conduct a 2-D seismic project across state land to explore for natural gas and oil. This project may lead to new discoveries of natural gas and oil. This can lead to additional exploratory drilling. This activity would present another proposed project to the Montana DNRC. The Montana DNRC will address that issue through the same MEPA process.</p> <p><u>No Action Alternative:</u> The Montana DNRC will not issue Wave USA, Inc. a seismic permit to conduct a 2-D seismic project across this tract of state agricultural and grazing land. There are no other appropriate social and/or economic circumstances to discuss within this Environmental Assessment Checklist.</p>

EA Checklist Prepared By: Steve Dobson
Name

Resource Specialist
Title

Signature

Date

IV. FINDING	
25. ALTERNATIVE SELECTED:	Approve Seismic Permit #1484
26. SIGN4IFICANCE OF POTENTIAL IMPACTS:	<p>Geophysical Applications, Inc subcontracted by the Wave USA has applied for a 2-D seismic project on various state land parcels. Energy sources will be generated by using 2 vibroseis trucks. The overall goal of this seismic project is to locate oil and/or gas producing formations. The seismic line will minimally impact state and private owned surface. The majority of surface impacts would result from the compaction of the vibrating platform and the manipulation of motorized vehicles on the ground surface. Impacts are minimal, temporary in nature and not cumulative. State tracts being inventoried are classified grazing land. Surface damages have been settle with the state and surface lessee. Overall, this project will not have negative impacts to the environment if the Department's terms and conditions are followed. If viable natural gas and/or oil reservoirs are located under state land, then the school trust will likely economically benefit from this project over the long term.</p>
27. Need for Further Environmental Analysis: <input type="checkbox"/> EIS <input type="checkbox"/> More Detailed EA <input checked="" type="checkbox"/> No Further Analysis	

Signature	Date
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